

Middle Atlantic states.—From 20° at Philadelphia, Pennsylvania, on the 12th, to 36° at New York City, New York, on the 13th.

South Atlantic states.—From 24° at Hatteras, North Carolina, and Jacksonville, Florida, on the 8th and 24th, respectively, to 31° at Augusta, Georgia, on the 6th.

Florida peninsula.—From 10° at Key West, on the 10th, to 26° at Cedar Keys, on the 4th.

Eastern Gulf.—From 22° at New Orleans, Louisiana, on the 17th, to 32° at Montgomery, Alabama, on the 13th.

Western Gulf.—From 19° at Indianola, Texas, on the 3d, to 35° at Fort Smith, Arkansas, on the 26th.

Rio Grande valley.—From 24° at Brownsville, Texas, on the 24th, to 26° at Rio Grande City, on the 3d.

Tennessee.—From 28° at Memphis, on the 19th, to 30° at Chattanooga, on the 3d.

Ohio Valley.—From 24° at Cincinnati, Ohio, on the 26th, to 31° at Indianapolis, Indiana, on same date.

Lower lakes.—From 22° at Erie, Pennsylvania, on the 13th, to 32° at Toledo, Ohio, on the 17th.

Upper lakes.—From 24° at Port Huron, Michigan, on the 26th, to 41° at Escanaba, Michigan, on same date.

Extreme northwest.—From 45° at Saint Vincent, Minnesota, on the 25th, to 48° at Fort Buford, Dakota, on the 12th.

Upper Mississippi valley.—From 28° at Keokuk, Iowa, on the 13th, to 39° at Des Moines, Iowa, on the 25th.

Missouri valley.—From 43° at Leavenworth, Kansas, and Omaha, Nebraska, on the 25th, and at Yankton, Dakota, on the 27th, to 53° at Fort Bennett, Dakota, on the 16th.

Northern slope.—From 36° at Cheyenne, Wyoming, on the 12th, to 62° at Fort Shaw, Montana, on the 28th.

Middle slope.—From 22° on the summit of Pike's Peak, Colorado, on the 26th, to 50° at West Las Animas, Colorado, on the 16th and 27th.

Southern slope.—From 41° at Fort Stockton, Texas, on the 24th, to 42° at Fort Cocho, Texas, on the 30th.

Southern plateau.—From 28° at Fort Grant, Arizona, on the 21st, to 46° at Fort Apache, Arizona, on the 30th.

Middle plateau.—25° at Salt Lake City, Utah.

Northern plateau.—From 26° at Spokane Falls, Washington Territory, on the 1st, to 37° at Dayton, Washington Territory, on same date.

North Pacific coast.—From 11° at Fort Canby, Washington Territory, on the 14th, to 22° at Roseburg, Oregon, on the 1st.

Middle Pacific coast.—From 14° at San Francisco, California, on the 29th, to 28° at Sacramento, California, on the 30th.

South Pacific coast.—From 31° at San Diego, California, on the 12th, to 38° at Los Angeles, California, on the 28th.

FROSTS.

Frosts were reported in the various districts on the following dates:

New England.—1st to 31st.

Middle Atlantic states.—1st to 5th, 8th, 12th to 20th, 25th to 30th.

South Atlantic states.—1st to 4th, 13th to 19th, 28th, 29th, 30th.

Eastern Gulf.—1st, 2d, 3d, 13th, 16th, 17th, 28th, 29th, 30th.

Western Gulf.—1st, 2d, 3d, 7th, 12th to 19th, 27th to 30th.

Tennessee.—1st, 2d, 3d, 5th, 6th, 7th, 12th to 17th, 19th, 25th, 27th, 28th, 29th.

Ohio valley.—1st to 5th, 7th, 12th to 21st, 25th to 30th.

Lower lakes.—1st to 5th, 7th, 8th, 11th to 20th, 25th, 27th to 30th.

Upper lakes.—1st to 4th, 6th to 30th.

Extreme northwest.—1st to 30th.

Upper Mississippi valley.—1st to 24th, 26th to 30th.

Missouri valley.—1st to 30th.

Northern slope.—1st, 3d to 29th.

Middle slope.—1st, 2d, 3d, 5th to 30th.

Southern plateau.—2d, 4th to 29th.

Middle plateau.—1st, 2d, 4th to 7th, 10th to 30th.

Northern plateau.—1st to 9th, 11th, 13th to 17th, 19th, 28th.

North Pacific.—2d, 3d, 4th, 7th, 8th, 23d, 24th, 25th, 28th, 29th, 30th.

Middle Pacific.—1st to 6th, 17th, 18th, 21st, 22d, 23d, 25th to 30th.

Frosts were also reported from the following stations:

Los Angeles, California, 24th.

Poway, California, 21st to 27th.

Archer, Florida, 3d.

Mayport, Florida, 2d, 3d, 4th, 16th, 29th, 30th.

Fort Elliott, Texas, 1st, 6th, 18th, 20th, 22d, 24th.

At Stateburg, South Carolina, tender vegetation was killed by the frost of the morning of the 2d.

ICE.

Under the heading "ice in rivers and harbors" in this REVIEW, the subject of ice-formation in the northern sections of the country is considered. In the southern states the following instances of ice-formation have been reported:

Alabama.—Montgomery, 16th.

Arizona.—Wickenburg, 20th to 26th; Fort Grant, 21st.

Arkansas.—Lead Hill, 1st, 2d, 12th to 17th, 27th, 28th, 29th; Little Rock, 2d, 16th; Fort Smith, 14th.

California.—Princeton, 4th, 5th, 25th; Sacramento, 25th to 30th.

Florida.—Pensacola: thin ice formed in exposed places in this city on the 16th.

Georgia.—Atlanta, 2d.

Louisiana.—Liberty Hill, 16th.

North Carolina.—Weldon, 2d, 3d; New River Inlet, 2d, 3d, 16th; Sloop Point, 13th; Charlotte, 13th, 15th, 16th, 17th; Cape Lookout, 16th, Smithville, 17th; Brevard, 17th.

South Carolina.—Stateburg, 2d.

Tennessee.—Austin, 1st; Nashville, 2d; Chattanooga, 2d, 3d, 13th, 15th, 16th, 17th; Memphis, 13th, 15th, 16th, 17th.

Texas.—Fort Elliott, 14th; Cleburne, 16th; Barnesville, 27th.

Virginia.—Johnsontown, 13th, 15th, 17th, 29th; Norfolk, 13th, 15th; Marion, 16th.

At Webster, Day county, Dakota, on the 16th, ice was reported to be seven and one-half inches in thickness.

PRECIPITATION.

The distribution of rainfall over the United States and Canada for the month of November, 1883, as determined from reports from more than six hundred stations, is exhibited on chart iv.

The monthly precipitation has been excessive in the Gulf states, Ohio valley, Tennessee, upper lake region, northern slope and northern plateau. In these districts the excesses are not marked, being generally less than 1.00 except in the upper lake region and Ohio valley, where they were 1.00 and 1.05, respectively. In Tennessee the average precipitation was only 0.17 above the normal, and in the other districts of excess, the departures ranged from 0.49 in the eastern Gulf states to 0.90 in the western Gulf states, and 0.96 in the Rio Grande valley. At Salt Lake City, Utah, the monthly precipitation was 0.24 above the average of nine years. In the district bordering on the Atlantic and Pacific coasts, in the lower lake region, extreme northwest, upper Mississippi and Missouri valleys, middle and southern slopes, and in the southern plateau, the monthly precipitation has been below the normal. The deficiencies were large on the Atlantic and Pacific coasts, but in the other districts named they ranged from 0.14 in the upper Mississippi valley to 0.57 in the southern plateau. On the Pacific coast the deficiencies increase from 1.03 in southern California to 1.48 in Oregon and Washington Territory. On the Atlantic coast the largest deficiencies are 2.25 in middle Atlantic states and 2.68 in Florida. On the summit of Mount Washington, New Hampshire, the monthly precipitation was 3.03

below the average, and on the summit of Pike's Peak, Colorado, it was 2.23 below.

The general distribution of rainfall for the month of November, with the districts of maximum departures from the normal in each year from 1873 to 1882, inclusive, are as follows:

Districts.	Maximum departure.	Year.	Remarks
		1873...	Normal in the lower Mississippi valley and eastern Gulf states; deficient in the lake region, upper Mississippi, Missouri, and Ohio valleys; excessive in the west Gulf states, Saint Lawrence valley, and in the districts on the Atlantic coast.
Pacific coast.....	+ 2.88		
Ohio valley.....	+ 1.70	1874...	Normal in the Saint Lawrence valley; excessive on the Pacific coast, in the upper lake region, upper Mississippi, Missouri, and Ohio valleys; deficient in Minnesota, the lower lake region, and in the states bordering on the Atlantic and Gulf coasts.
Western Gulf.....	+ 2.00		
Eastern Gulf.....	+ 1.90		
New England.....	+ 1.10		
Pacific coast.....	+ 5.40	1875...	Excessive on the Pacific coast, in New England, the Ohio valley, middle Atlantic and Gulf states; deficient in the south Atlantic states, Minnesota, lake region, and in the upper Mississippi and Missouri valleys.
Ohio valley.....	+ 2.05		
Eastern Gulf.....	+ 1.45		
Upper Mississippi valley.....	+ 1.20		
Minnesota.....	+ 1.10		
New England.....	+ 1.45	1876...	Normal in Minnesota; excessive in New England, the middle Atlantic states, upper lake region, and upper Mississippi valley; deficient in the lower lake region, Saint Lawrence, Ohio, and Missouri valleys, and in the south Atlantic and east Gulf states.
Middle Atlantic states.....	+ 1.00		
Ohio valley.....	+ 2.00		
Saint Lawrence valley.....	+ 1.25		
Western Gulf.....	+ 1.20		
Portland, Oregon.....	+ 5.50	1877...	Deficient in California, Minnesota, and in the upper Missouri valley; excessive in the lower Missouri valley, west Gulf states, and in all districts east of the Mississippi river.
Middle Atlantic states.....	+ 2.88		
South Atlantic states.....	+ 2.39		
Western Gulf.....	+ 2.03		
California coast.....	+ 1.09		
Upper Missouri valley.....	+ 0.38		
Saint Lawrence valley.....	+ 2.64	1878...	Normal in the south Atlantic states; excessive in the Gulf states, New England, lower lake region, and in the Saint Lawrence and Ohio valleys; deficient on the Pacific coast, upper lake region, upper Mississippi and Missouri valleys, and the Middle Atlantic states and Tennessee.
Middle Atlantic states.....	+ 1.29		
Portland, Oregon.....	+ 2.34		
California coast.....	+ 1.02		
Missouri valley.....	+ 1.01		
Missouri valley.....	+ 3.32	1879...	Deficient in the north Pacific coast region, the upper Missouri valley, Minnesota, and in the states bordering on the Atlantic and Gulf coasts; excessive in California, the lake region, Tennessee, and in the Saint Lawrence, Ohio, upper Mississippi, and lower Missouri valleys.
Upper Mississippi valley.....	+ 2.05		
Upper lakes.....	+ 2.50		
Portland, Oregon.....	+ 3.39		
Middle Atlantic states.....	+ 2.12		
Eastern Gulf.....	+ 2.08		
Western Gulf.....	+ 3.38	1880...	Deficient on the Pacific coast, in the upper lake region, Missouri and Ohio valleys, New England, and the middle Atlantic states; excessive in the Saint Lawrence valley, lower lake region, upper Mississippi valley, Tennessee, and in the south Atlantic and Gulf states.
South Atlantic states.....	+ 2.90		
Tennessee.....	+ 2.34		
North Pacific coast.....	+ 5.33		
Middle Pacific coast.....	+ 2.05		
New England.....	+ 1.85		
Western Gulf.....	+ 3.38	1880...	Deficient on the Pacific coast, in the upper lake region, Missouri and Ohio valleys, New England, and the middle Atlantic states; excessive in the Saint Lawrence valley, lower lake region, upper Mississippi valley, Tennessee, and in the south Atlantic and Gulf states.
South Atlantic states.....	+ 2.90		
Tennessee.....	+ 2.24		
North Pacific coast.....	+ 5.33		
Middle Pacific coast.....	+ 2.05		
New England.....	+ 1.85		
Missouri valley.....	+ 2.56	1881...	Deficient on the Pacific coast, in New England, and the middle Atlantic states; normal in Florida; excessive in the Gulf states, Tennessee, lake region, and in the upper Mississippi, Missouri, and Ohio valleys.
Upper lakes.....	+ 1.05		
Ohio valley.....	+ 1.05		
North Pacific coast.....	+ 1.54		
Middle Atlantic states.....	+ 0.69		
Middle Pacific coast.....	+ 2.13	1882...	Excessive in the extreme northwest, over the southern districts from the Mississippi river to California, and in Florida; normal in the upper Mississippi and Missouri valleys; deficient in all other districts.
Southern slope.....	+ 1.34		
Saint Lawrence valley.....	+ 2.98		
Middle Atlantic states.....	+ 2.41		
North Pacific coast.....	+ 2.38		

In the first column of the following table is given the average rainfall for November in each of the various districts for several years, as determined from observations made at the Signal Service stations; in the second column is given the average for November, 1883, and the third column shows the excess or deficiency of November, 1883, as compared with the average of that month in previous years:

Average precipitation for November, 1883.

Districts.	Average for November. Signal-Service observations.		Comparison of Nov., 1883, with the average for several years.
	For several years.	For 1883.	
	Inches.	Inches.	Inches.
New England.....	4.40	2.71	1.69 deficiency.
Middle Atlantic states.....	3.62	1.37	2.25 deficiency.
South Atlantic states.....	3.85	2.36	1.49 deficiency.
Florida peninsula.....	3.30	0.62	2.68 deficiency.
Eastern Gulf.....	4.76	5.25	0.49 excess.
Western Gulf.....	4.66	5.56	0.90 excess.
Rio Grande valley.....	1.55	2.51	0.96 excess.
Tennessee.....	4.64	4.81	0.17 excess.
Ohio valley.....	3.52	4.57	1.05 excess.
Lower lakes.....	3.18	3.02	0.16 deficiency.
Upper lakes.....	2.74	3.74	1.00 excess.
Extreme northwest.....	0.95	0.55	0.42 deficiency.
Upper Mississippi valley.....	2.68	2.54	0.14 deficiency.
Missouri valley.....	1.23	0.68	0.55 deficiency.
Northern slope.....	0.54	1.07	0.53 excess.
Middle slope.....	0.63	0.18	0.45 deficiency.
Southern slope.....	1.11	0.79	0.32 deficiency.
Northern plateau.....	1.98	2.48	0.50 excess.
Southern plateau.....	0.68	0.11	0.57 deficiency.
North Pacific coast.....	6.67	5.19	1.48 deficiency.
Middle Pacific coast.....	2.35	0.98	1.37 deficiency.
South Pacific coast.....	1.13	0.10	1.03 deficiency.
Mount Washington, N. H.....	6.75	3.72	3.03 deficiency.
Pike's Peak, Col.....	2.30	0.07	2.23 deficiency.
Salt Lake City, Utah.....	1.54	1.78	0.24 excess.

DEVIATIONS FROM AVERAGE PRECIPITATION.

The departures exhibited by the reports from the regular Signal Service stations are shown in the table of average precipitation for November, 1883. Voluntary observers report the following notes in connection with this subject:

Arkansas.—Lead Hill, Boone county: monthly rainfall, 5.77, is 2.06 above the November average of the last two years.

British Columbia.—New Westminster: the rainfall during November, 1883, was the largest ever known at this place. The total amount was 16.74, or 9.00 above the normal. From 10 a. m. of the 27th to 9 a. m. of the 30th, 10.28 fell.

Illinois.—Riley, McHenry county: monthly rainfall, 4.03, is 2.09 above the November average of the last twenty-three years. The total rainfall for the autumn of 1883 slightly exceeds the autumnal average of the last twenty-two years.

Anna, Union county: monthly rainfall, 6.85, is 2.30 above the November average of the last eight years.

Mattoon, Coles county: monthly rainfall, 4.73, is 0.46 above the November average of the last four years.

Indiana.—Wabash, Wabash county: monthly rainfall, 3.65, is 0.57 above the November average of the last eight years.

Logansport, Cass county: monthly rainfall, 3.45, is 0.58 above the November average of the last twenty-four years. An immeasurable quantity of snow fell on the 15th. The average November snowfall at this place since 1859 is 5.2. The largest November snowfall during the period since 1859 is 18.5 in 1864. No snow fell during November in the following years: 1860, '61, and '83.

Kansas.—Independence, Montgomery county: monthly rainfall, 0.79, is 1.36 below the November average of the last eleven years.

Lawrence, Douglas county: monthly rainfall, 0.79, is 1.36 below the November average of the last sixteen years.

Wellington, Sumner county: monthly rainfall, 0.18, is 1.16 below the November average of the four preceding years.

Maine.—Gardiner, Kennebec county: monthly rainfall, 2.95, is 1.40 below the November average of the last forty-seven years.

Maryland.—Fallston, Harford county: monthly rainfall, 1.79, is 1.90 below the November average of the last thirteen years.

Missouri.—Saint Louis: monthly rainfall, 2.18, is 0.77 below the average for November since 1839.

New Hampshire.—Contoocookville, Merrimack county: monthly rainfall, 1.85, is nearly 1.50 below the November average of the last twelve years.

Table of Excessive, Greatest, and Least Monthly Rainfalls.

Station.	Specially heavy.			Largest monthly.	Smallest monthly.	
	Date.	Amt.	Duration.	Amount.	Station.	Amt.
<i>Alabama.</i>					<i>Arizona.</i>	
Green Springs.....	22	2.60			Casa Grande.....	0.00
<i>Georgia.</i>					Fort Thomas.....	0.00
Augusta.....	24, 25	3.13			Fort Verde.....	0.00
Forsyth.....	24, 25	2.40			Maricopa.....	0.00
<i>Illinois.</i>					San Carlos.....	0.00
Anna.....	21	3.51		6.85	Wickenburg.....	0.00
Morrison.....	5	4.08		6.30	Prescott.....	1' 00
Chicago.....	5	3.34			Yuma.....	1' 00
Kiley.....	4, 5	2.16			Tucson.....	0.02
Polo.....	5	2.10			Fort Apache.....	0.02
<i>Indiana.</i>					Pantano.....	0.05
Evansville.....	21	3.64		7.45	Benson.....	0.07
Martinsville.....	21	2.00		7.23	Fort Grant.....	0.11
Mitchell.....	21	2.50		7.00	San Simon.....	0.35
Worthington.....	21	3.30		6.85	Willcox.....	0.36
Franklin.....	21	4.25		6.82	Fort Bowie.....	0.39
Indianapolis.....	20, 21	4.63		6.80	Fort Lowell.....	0.48
Terre Haute.....	20, 21	4.11		6.53	<i>California.</i>	
Connersville.....				6.23	Anaheim.....	0.00
Brookville.....	21	2.05		6.15	Colton.....	0.00
Franklin.....	21	4.25			Daguerre.....	0.00
Vevay.....	22	3.85			Delano.....	0.00
Richmond.....	21	3.80			Fenner.....	0.00
Griffin Station.....	20, 21	3.69			Indio.....	0.00
Glenwood.....	21	3.27			Kingsburg.....	0.00
Corydon.....	23	3.20			Lemoore.....	0.00
Marengo.....	21	2.70			Low Angeles.....	0.00
Degonia.....	21	2.75			Mammoth Tank.....	0.00
Spiceland.....	21	2.60			Mojave.....	0.00
Jeffersonville.....	21	2.68			Needles.....	0.00
Wabash.....	20, 21	2.14			Newhall.....	0.00
Blue Lick.....	22	2.13			Oakwood.....	0.00
Huntingburg.....	21	2.11			Ravenne.....	0.00
Hanover.....	21	2.10			San Fernando.....	0.00
Miami.....	21	2.05			Spadra.....	0.00
Fort Wayne.....	21	2.01			White Water.....	0.00
<i>Iowa.</i>					Fresno.....	1' 00
Muscatine.....	5	2.58			Caliente.....	0.05
Davenport.....	5	2.03			Sumner.....	0.05
<i>Kentucky.</i>					Williams.....	0.05
Louisville.....	21, 22	3.45		6.05	Tulare.....	0.06
<i>Louisiana.</i>					Princeton.....	0.10
New Orleans.....	11	2.42		6.36	Oreland.....	0.12
<i>Maine.</i>					Tehachapi.....	0.14
Portland.....	26, 27	2.65			Willows.....	0.15
<i>Massachusetts.</i>					Keene.....	0.16
Fall River.....	26, 27	2.75			Molokai.....	0.16
Provincetown.....	26, 27	2.37			Solidad.....	0.17
Taunton.....	26, 27	2.10			Chualar.....	0.18
<i>Michigan.</i>					Borden.....	0.20
Northport.....	5, 6	2.10		7.85	San Diego.....	0.20
Hudson.....	14, 15	2.50			San Mateo.....	0.21
<i>Mississippi.</i>					Calistoga.....	0.24
Vicksburg.....	22	4.02		11.53	Salinas City.....	0.26
<i>Missouri.</i>					Menlo Park.....	0.28
Ironton.....				6.80	San Jose.....	0.28
Saint Louis.....	20, 21	2.52			Tracy.....	0.30
Jefferson Barracks.....	20, 21	2.48			Turlock.....	0.32
<i>North Carolina.</i>					Gilroy.....	0.33
Hatteras.....	25, 26	4.28			Pleasanton.....	0.33
Charlotte.....	25	2.42			Davis.....	0.35
<i>Ohio.</i>					Hollister.....	0.35
Cincinnati.....	21, 22	2.94			Merced.....	0.38
<i>Ontario.</i>					Tennant.....	0.38
Parry Sound.....				6.30	Brighton.....	0.39
<i>Oregon.</i>					Petaluma.....	0.41
Portland.....				8.26	Oakland.....	0.42
<i>Rhode Island.</i>					South Vallejo.....	0.42
Point Judith.....	26, 27	2.71			Dunnigan.....	0.45
<i>South Carolina.</i>					Stockton.....	0.49
Aiken.....	25	3.48			<i>Colorado.</i>	
<i>Tennessee.</i>					Pueblo.....	0.00
Hillham.....				7.12	Pike's Peak.....	0.07
Chattanooga.....	22	3.00	18hr. 45m.	6.79	West Las Animas.....	0.21
Careyville.....				6.01	Denver.....	0.32
Riddleton.....				6.00	<i>Dakota.</i>	
<i>Texas.</i>					Fort Hale.....	0.00
Palestine.....	10, 11	5.38		7.09	Fort Sisseton.....	0.00
<i>Washington.</i>					Fort Sully.....	0.00
Fort Canby.....				8.64	Fort Yates.....	0.00
					Fort Bennett.....	1' 00
					Fort Meade.....	0.05
					Huron.....	0.05
					Alexandria.....	0.06
					Webster.....	0.08
					Yankton.....	0.08
					Fort Buford.....	0.14
					Bismarck.....	0.26
					Fort Lincoln.....	0.30
					<i>Florida.</i>	
					Lincoln.....	1' 00
					Jacksonville.....	0.09
					Saint Augustine.....	0.23
					Sanford.....	0.35
					<i>Georgia.</i>	
					Andersonville.....	0.26
					<i>Iowa.</i>	
					Logan.....	0.10
					<i>Kansas.</i>	
					Allison.....	0.00
					Salina.....	0.04
					Wellington.....	0.18
					Manhattan.....	0.20
					Emporia.....	0.34
					Holton.....	0.37

Table of Excessive, Greatest, and Least Monthly Rainfalls.--Continued.

Station.	Specially heavy.			Largest monthly.	Smallest monthly.	
	Date.	Amt.	Duration.	Amount.	Station.	Amt.
					<i>Kansas--Continued.</i>	
					Pretty Prairie.....	0.50
					<i>Massachusetts.</i>	
					Fort Warren.....	0.22
					<i>Minnesota.</i>	
					Moorhead.....	0.16
					Saint Vincent.....	0.26
					<i>Montana.</i>	
					Fort Keogh.....	0.20
					Fort Benton.....	0.36
					Fort Shaw.....	0.43
					<i>Nebraska.</i>	
					Central City.....	0.00
					Genoa.....	0.00
					Hastings.....	0.00
					Imaville.....	0.00
					Marquette.....	0.06
					Neligh.....	0.00
					Norfolk.....	0.00
					Schuyler.....	0.00
					Stockham.....	0.00
					Stromsburg.....	0.00
					Fairmount.....	0.01
					Red Willow.....	0.02
					Beaver Creek.....	0.04
					Fort Niobrara.....	0.04
					Crete.....	0.10
					Freemont.....	0.16
					Mission Creek.....	0.38
					Table Rock.....	0.40
					North Platte.....	0.42
					Ashland.....	0.45
					Fairbury.....	0.50
					Fort Robinson.....	0.50
					Johnson.....	0.50
					Peru.....	0.50
					Weeping Water.....	0.50
					<i>Nevada.</i>	
					Carlin.....	0.00
					Hot Springs.....	0.00
					Galeonda.....	0.11
					Carson City.....	0.13
					Wadsworth.....	0.25
					Brown's.....	0.28
					Elko.....	0.30
					Tecoma.....	0.38
					Boca.....	0.50
					<i>New Mexico.</i>	
					Fort Wingate.....	0.00
					Deming.....	0.30
					<i>North Carolina.</i>	
					Smithville.....	0.35
					<i>Texas.</i>	
					Barnesville.....	0.02
					Fort Elliott.....	0.04
					Fort Concho.....	0.29
					El Paso.....	0.30
					<i>Utah.</i>	
					Kelton.....	0.41
					Terrace.....	0.45
					<i>Wyoming.</i>	
					Cheyenne.....	0.16

Grafton, Grafton county: monthly rainfall, 2.81, is 0.12 below the November average of the last five years.

New York.—Palermo, Oswego county: monthly rainfall, 3.57, is 0.30 below the November average of the last thirty years.

North Volney, Oswego county: monthly rainfall, 4.00, is 0.29 above the November average of the last twelve years. The total rainfall for the autumn of 1883 is 8.90, or 1.28 below the autumnal average of the last twelve years.

Ohio.—Wauseon, Fulton county: monthly rainfall, 2.88, is 0.39 below the November average of the last eleven years. The largest November precipitation of that period, 5.83, occurred in 1881; the smallest, 1.87, occurred in 1872.

Pennsylvania.—Dyberry, Wayne county: monthly rainfall, 2.27, is 0.52 below the average of the last twelve years.

Texas.—New Ulm, Austin county: monthly rainfall, 5.32, is 0.80 below the November average of the last twelve years.

The largest November rainfall of that period, 14.93, occurred in 1873; the smallest, 0.78, occurred in 1879.

Virginia.—Variety Mills, Nelson county: monthly rainfall, 1.05, is 1.21 below the November average of the last five years.

Wytheville, Wythe county: monthly rainfall, 2.54, is 0.15 below the November normal.

West Virginia.—Helvetia, Randolph county: monthly rainfall, 2.05, is 2.26 below the November average of the last seven years.

HAIL.

Hail has been reported from the several states and territories as follows:

Arizona.—Prescott, 9th.
Illinois.—Mattoon, 24th; Larchland, 25th.
Indiana.—Wabash, 8th; Indianapolis, 9th.
Iowa.—Indianola, 8th, 25th.
Kansas.—Clay Centre, 4th, 5th; Emporia and Leavenworth, 5th.
Maine.—Bangor 1st; Gardiner, 1st, 12th.
Massachusetts.—Somerset and Westborough, 2d.
Michigan.—Northport, 4th and 11th; Escanaba, 10th, 11th; Traverse City, 26th.
Missouri.—Saint Louis, 21st.
Nebraska.—Johnson, 5th.
New Jersey.—Cape May, 2d.
New York.—Fort Niagara, 1st; Menand station, (near Albany) 3d; Ardenia, 9th; Palermo, 9th, 11th.
Ohio.—Sandusky, 9th.
Oregon.—Portland, 18th; Astoria, 24th, 25th; Fort Stevens, 24th.
Rhode Island.—Point Judith, 2d.
Utah.—Logan, 23d.
Wisconsin.—Beloit and Manitowac, 25th. At Sussex, Waukesha county, a thunder-storm, accompanied by hail and high wind, occurred on the 26th, beginning at 12.20 a. m., and lasting twenty minutes.

SNOW.

Snow fell in the several districts during the month as follows:

New England.—2d, 12th, 14th to 17th, 29th, 30th. On the summit of Mount Washington, New Hampshire, snow fell on 1st, 12th to 16th, 18th, 19th, 23d, 24th, 26th to 30th.
Middle Atlantic states.—1st, 2d, 12th, 14th, 15th, 16th, 25th, 27th, 28th, 30th.
Ohio valley.—1st, 2d, 12th to 16th.
Lower lakes.—1st, 2d, 12th to 16th, 25th, 27th, 28th, 30th.
Upper lakes.—1st, 2d, 6th, 11th to 16th, 21st to 30th.
Extreme northwest.—9th, 10th, 11th, 13th, 14th, 18th to 30th.
Upper Mississippi valley.—5th, 11th, 13th, 14th, 21st, 24th to 27th.
Missouri valley.—5th, 9th, 13th, 19th to 23d, 25th.
Northern slope.—2d, 4th, 8th to 13th, 18th to 30th.
Middle plateau.—3d, 4th, 5th, 8th, 9th, 19th to 22d, 24th, 25th.
Northern plateau.—6th, 19th, 20th, 21st, 24th, 25th, 26th.
North Pacific coast.—6th, 8th, 21st, 22d, 24th, 25th, 26th.
 On the summit of Pike's Peak, Colorado, snow fell on the 3d, 9th, 20th, 21st, 23d, 25th; and at Denver, Colorado, on the 13th and 25th.
 A slight fall of snow occurred at Auburn, Alabama, at 9.30 a. m. of the 15th.

LARGEST MONTHLY SNOWFALLS.

[Expressed in inches.]

The following are the largest monthly snowfalls reported from the various states and territories during the month:

California.—Cisco, 22; Emigrant Gap, 12; Summit, 12.
Dakota.—Fort Assiniboine, 31.1; Fort Buford, 17.5; Fort Totten, 7.3.
Massachusetts.—Rowe, 7.
Michigan.—Northport, 15.55; Marquette, 15.2; Fort Brady, about 15; Alpena, 12.3; Traverse City, 11; Grand Rapids, 8.5; Grand Haven, about 6.
Minnesota.—Duluth, about 11.
Montana.—Fort Ellis, 8.8; Fort Shaw, 8.3; Helena, 6.4.
Nevada.—Truckee, 25; Otaga, 17; Wells, 13; Toano, 8.5; Battle Mountain, 7; Halleck, 6.5.
New Brunswick.—Fredericton, 6.3.
New Hampshire.—Mount Washington, about 8.

New York.—Humphrey, 19.5; Kiantone, 9.25; North Volney, about 8; Palermo, 5.25; Johnstown, 5; Buffalo, about 5; Oswego, about 5.

Nova Scotia.—Halifax, 8.5.

Ohio.—Wauseon, 8.

Pennsylvania.—Grampian Hills, 9.

Prince Edward Island.—Charlottetown, 5.6.

Utah.—Promontory, 10.5; Ogden, 10; Salt Lake City, about 10; Nephi, 8.1; Blue Creek, 7.5; Logan, 7; Corinne, 6.

Vermont.—Stratford, 9; Lunenburg, 7.5; Newport, 7.25.

Washington Territory.—Spokane Falls, about 9.

Wyoming.—Fort Bridger, 7.6.

DEPTH OF UNMELTED SNOW ON GROUND AT END OF MONTH.

[Expressed in inches.]

Dakota.—Fort Buford, 5; Bismarek, 1.
Massachusetts.—Rowe, 3.
Michigan.—Mackinaw City, 3; Marquette, 3; Traverse City, 2.5; Alpena, 2; Escanaba, 2.
Minnesota.—Saint Vincent, 2; Duluth, 1.
Montana.—Poplar River, 6; Fort Maginnis, 2.
New Hampshire.—Mount Washington, 2.
Utah.—Logan, 2.
Vermont.—Lunenburg, 5; Newport, 4; Strafford, 3; Woodstock, 2.

SNOW FROM A CLOUDLESS SKY.

Pittsburg, Pennsylvania.—Snow fell from a cloudless sky at 5 p. m. of the 15th.

SLEET.

Northfield, Minnesota, 1st, 2d.
 Mount Washington, New Hampshire, 1st, 12th to 16th, 18th, 19th, 23d, 24th, 26th to 30th.
 Oswego, New York, 1st, 12th.
 Block Island, Rhode Island, 2d.
 Erie, Pennsylvania, 2d.
 Baltimore, Maryland, 2d.
 Cheyenne, Wyoming, 4th.
 Salt Lake City, Utah, 9th.
 Escanaba, Michigan, 10th.
 Eastport, Maine, 12th, 30th.
 Montgomery, Alabama, 15th.
 Dayton, Washington Territory, 19th.
 Cedar Rapids, Iowa, 21st.
 Dubuque, Iowa, 21st.
 Fort Stevens, Oregon, 24th, 25th.
 Fort Canby, Washington Territory, 24th, 25th.
 Duluth, Minnesota, 25th.
 Moorhead, Minnesota, 29th.
 Port Huron, Michigan, 30th.

Table of rainy and cloudy days, relative humidity, and dew-point for Nov., 1883.

Districts.	Rainy days.	Cloudy days.	Rel. humidity.	Dew-point.
			Percentages.	°
New England.....	From 9 to 19	From 4 to 11	From 69.4 to 78.8	From 31.2 to 39.6
Middle Atlantic states.....	" 4 " 17	" 3 " 13	" 66.7 " 75.9	" 32.7 " 42.2
South Atlantic states.....	" 4 " 11	" 2 " 8	" 62.6 " 78.8	" 38.2 " 51.0
Florida peninsula.....	" 5 " 9	" 1 " 6	" 77.1 " 79.6	" 57.8 " 68.1
East Gulf.....	" 9 " 12	" 5 " 8	" 67.2 " 69.9	" 45.2 " 51.7
West Gulf.....	" 8 " 18	" 7 " 10	" 62.0 " 79.6	" 40.0 " 59.2
Rio Grande valley.....	" 7 " 12	" Nine	" 71.9 " 81.3	" 57.5 " 62.4
Ohio valley.....	" 12 " 21	" 6 to 10	" 62.3 " 69.3	" 31.9 " 38.4
Tennessee.....	" 10 " 16	" 7 " 9	" 66.4 " 73.9	" 39.3 " 42.9
Lower lakes.....	" 13 " 22	" 10 " 19	" 62.8 " 81.0	" 12.3 " 20.4
Upper lakes.....	" 9 " 21	" 7 " 18	" 66.2 " 80.5	" 22.4 " 34.3
Extreme northwest.....	" 5 " 12	" 4 " 8	" 75.8 " 81.0	" 17.6 " 20.4
Upper Mississippi valley.....	" 4 " 14	" 4 " 9	" 60.2 " 70.6	" 21.5 " 39.3
Missouri valley.....	" 0 " 6	" 1 " 4	" 62.2 " 68.1	" 17.6 " 30.7
Northern slope.....	" 2 " 14	" 1 " 11	" 41.9 " 66.9	" 6.4 " 22.2
Middle slope.....	" 1 " 4	" 0 " 2	" 46.3 " 55.2	" 16.1 " 28.1
Southern slope.....	" Six	" Seven	" 63.7 " 67.5	" 6.4 " 24.4
Southern plateau.....	" 0 " 5	" 0 " 3	" 49.1 " 55.0	" 23.1 " 31.3
Northern plateau.....	" 4 " 18	" 7 " 16	" 69.1 " 78.7	" 32.3 " 34.1
North Pacific.....	" 16 " 25	" 15 " 20	" 82.2 " 90.8	" 40.1 " 44.6
Middle Pacific.....	" 2 " 3	" 2 " 6	" 69.8 " 80.3	" 39.8 " 47.2
South Pacific.....	" 0 " 2	" 1 " 2	" 59.5 " 64.8	" 41.9 " 45.1
Mt. Washington, N. H.....	Eighteen	Two	88.0	16.5
Pike's Peak, Col.....	Six	None	75.4	7.3

* Relative humidity corrected for altitude.